# NEW MATERIALS

FOR

# THE HISTORY OF MAN,

DERIVED FROM

A COMPARISON OF THE CALENDARS AND FESTIVALS OF NATIONS.

BY

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No. II.

## ASTRONOMICAL FEATURES IN THE MOSAIC COSMOGONY.

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If the festivals of the old Greeks, Romans, Persians, Egyptians, and Goths, could be arranged with exactness in the same form with these Indian tables there would be found, I am persuaded, a striking resemblance among them; and an attentive comparison of them all might throw great light on the religion, and, perhaps on the history, of the primitive world.—SIR WM. JONES *on the Lunar Year of the Hindoos.*

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HALIFAX, NOVA SCOTIA:
1864.

# PREFACE.

In writing the paper on the Festival of the Dead, some facts came to light, which point to the existence of astronomical features in the Mosaic account of the Deluge, as well as in the traditions of primitive antiquity on the subject. After the paper was finished, astronomical features in the chronological periods of the ancients, traceable also in the Mosaic cosmogony, became very apparent. The present paper is devoted to the great year or cycle indicated by the Mosaic chronology. Another is also in course of preparation as to the first subject. The history of the Deluge appears to point to the primitive year, known in the Southern hemisphere as "the year of the Tau," or of the Pleiades. The Mosaic cosmogony apparently refers to the revolution of that year around the seasons—or to the great year of the Pleiades. At first the evidence of astronomical characteristics in all traditions respecting the Deluge, was so plain, and so remarkable, as almost to suggest that the "Bull and the Seven Celestial beings" associated from China to ancient Britain, with the Deluge, must have been typified by the eight persons preserved in the ark, and that the Mosaic narrative was an astronomical allegory as to Taurus and the seven Pleiades.

Many circumstances leading to this conclusion, disclosed by a comparison of the calendars and festivals of nations, were at first not a little difficult of explanation. But further enquiry has tended to show that the fact of eight persons having been preserved from a flood, is the common basis of almost all traditions, while the astronomical characteristics in which they all share, will, it is believed, be found in no way to weaken the historical value of the Mosaic account of the Deluge. If we look at the subject as an ordinary historical question, and dismiss all considerations as to our account of the Flood being sanctioned by divine inspiration in the opinion of most Christians, there is very strong evidence derivable from the calendars, festivals, customs, traditions, and mythologies of nations, to lead us to infer—1st, that the deluge is an historical fact; and 2ndly, that even if the whole of the human race was not destroyed, at least all of that civilized portion of mankind, who preserved the primitive heritage of chronological science, which is the subject of the present paper, excepting a few survivors, perished through a deluge.

Almost the first suspicion that traditions on the subject related to the year of the Pleiades, was excited by our finding that the Hebrews and Egyptians agreed in associating the memory of the Deluge with the same day, (the 17th of Athyr,) and that the Egyptians and the Mexicans simultaneously commemorated that event at the same time that the Australians celebrate their corroboree of the Pleiades, i. e. when those stars are most distinct. The evidence of philology was as conclusive as that of calendars and festivals. It was proved by a Greek writer that Theba meant among the Syrians both an *ark* and a *cow*; and it was shown that the names and the histories of Thebes, Argos, and other cities of Greece, as well as of many divinities, had a hidden reference to the ark and to the Flood; that the names of mountains and hills were connected with Taurus; and that the tors or "Arthur's Seats" of Britain, and like Tor-one, Tauromenium, &c.; related to that constellation. Under these circumstances when we remember that the seven stars in Taurus were called "the Dove" (Pleias), and recall an additional fact, not mentioned in the preceding paper, that *Theba* (*Taurus*) is the word used by Moses for the ark; and that the ark rested on Mount *Taurus*, we cannot avoid inferring that the locality referred to as well as some of the incidents in our history of the Deluge, must have been astronomical. The discussion of this point will be reserved for another paper on "the Deluge of Time."

As the Fiji ceremony of "bathing the God" or of sending him by water to Pulotu (the world of spirits) has been traced to Asia and Europe, and has certainly a very singular resemblance to a commemoration of the Flood, the attention of the reader is invited to a fact which has escaped my notice hitherto, that precisely the same festival, under the very same name (*Plynteria* from *plunein* to wash,) was observed by the Greeks. It is so remarkably similar in every particular, and especially in its funereal characteristics, that it will be regarded as almost settling the point that we have in the Pacific Islands, the rude outlines of the religious ideas, and ceremonies of some of the nations of antiquity. It will also confirm the conjecture in the paper on the Festival of the Dead, that there has been a migration of races to Europe and Asia from the Southern Hemisphere.

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HALIFAX, NOVA SCOTIA,
*March* 16*th*, 1864.

# ASTRONOMICAL FEATURES IN THE MOSAIC COSMOGONY.

In the course of investigations into the observance of the Festival of the Dead in Europe, Asia, Africa, Australia, Polynesia, and America, some facts that have hitherto escaped observation have been noticed, which are likely to throw a new light on the traditions respecting the Deluge, and to show that they all exhibit very remarkable points of identity, which consist of astronomical characteristics. The singular influence which Time and the Year seem to have exercised in ages of remote antiquity on religious ideas and traditions, and ultimately on mythology, was observed and noted, though no explanation was suggested for these peculiarities, that was satisfactory to the reader or to myself. Subsequently some still more interesting points of identity in the traditions of nations were discovered, namely that the cosmogonies of the Hebrews and of other races, and their chronology of the early ages of the world, had a more or less hidden reference to a primeval rule as to the revolution of the fixed stars, a rule which though not precisely accurate, was for all practical purposes the most simple and correct, which astronomical science even in the present day could possibly devise.

First the combined evidence of calendars, astronomy, and festivals proved that traditions as to the deluge among the Jews, as well as among the Mexicans, Egyptians, and other races, had some relation to time and to the primitive calendar which still exists in the Southern hemisphere as the year of the *Tau* or of the Pleiades (the Doves). This connection was particularly palpable in the fact, that some Asiatic nations designated the Flood as "*the Deluge of Time.*" Secondly it was found that the Mosaic chronology between the creation and the deluge exhibited the very same peculiarities which Sir William Jones has noticed in the mythological chronology of the Hindoos, viz., that it was based on periods of 72 years, the time within which the ancients supposed that the fixed stars gain one day on the natural year.

In the preface which the unexpected discovery of this important fact seemed to render necessary, it was very sincerely stated that, from one's tastes not being in any way theological, further enquiry into the subject would be left to divines, and to those more worthy or more competent to pursue it than myself. The present paper, however, seems to be called for by a subsequent discovery of a fact which appears to throw an entirely new light on the whole Mosaic Cosmogony, as well as on the singular astronomical periods of the ancients, and which being reducible to a simple arithmetical calculation, may be considered by some persons to be conclusive evidence in favor of my inferences, and cannot fail to be regarded by all as at least presenting most remarkable coincidences, which are deserving of further enquiry.

If these investigations had been commenced with that stumbling block in the way of almost all previous enquirers into this subject—*a theory*; if the Mosaic narrative

had been analyzed for the purpose of creating difficulties, or of building up a favourite speculation; or if facts had been twisted to supply arguments for preconceived conclusions, one would feel not only little disposition to invite a close scrutiny of facts, but also some misgivings as to the propriety of attempting to show one's ingenuity at the expense of truth, by raising needless questions on a subject, which even the careless regard with reverence, and which the reverent approach with awe.

It can, however, be shown to the satisfaction of any candid mind, that the effect of these investigations in supplying a clue to the interpretation of the early portions of holy writ, was the very last thing that was expected or desired, and was not referred to until the subject was forced upon my notice. The Mosaic narrative did not form the basis of any of the conclusions arrived at in the paper on the Festival of the Dead, either as to the year of the Pleiades, the progression of the sidereal year, the tradition of the ancients that the rule for calculating this progression was a gift from the Deity, or as to the connection of the deluge with Time and with the calendar.

## THE GREAT YEAR OF MOSAIC CHRONOLOGY.

While it is evident that the year of the Pleiades or of Taurus is the basis of primeval myths, and has become blended with primitive traditions, while it is equally plain that *Time* and the Year seem to have had an exaggerated and almost incredible influence on the religious ideas of primitive antiquity, yet a further fact, still more interesting, substantially arrived at and yet not fully apprehended by myself, is indicated by the note to p. 71. I need not apologize for referring to the course of these investigations to show that the problem had been worked out before there was the least conception entertained by me of its importance in interpreting the early chronology of the Hindoos, and of other races, as well as in affording a clue to peculiarities in the Mosaic history not hitherto suspected by any writers, or at least by myself.

Having found a sidereal year in the Southern Hemisphere, and traces of it among ancient nations, it was apparent that, if the year of the Pleiades was the primeval basis of primitive calendars, *the festivals and months regulated by it must have gradually moved forward, in relation to the seasons or to the tropical year.* I accordingly requested a mathematician to inform me what would be this rate of progression, in order that I might see whether the November new year's Festival of the Dead had in former ages exhibited traces of the progressive tendency of the year of the Pleiades. He gave the following approximation which seemed sufficiently accurate for all practical purposes, viz., that the fixed stars, and hence a year regulated by them, would gain 14 days in 1000 years, and one day in 71 years. The researches, the results of which are contained in from p. 59 to p. 71, were conducted on this rule; when, therefore, I found that the Hindoos believe that "in every 1000 divine ages, or in every day of Brahma,* 14 Menus are successively invested with the sovereignty of the earth; each Menu they suppose transmits his empire to his sons and grandsons, during a period of 71 divine ages; and such a period they call a menwantara," it required very little ingenuity to suggest that this myth had reference to the rule, by which I had been endeavoring to trace the

* See p. 71, and note.

progressive year of the Pleiades in the calendars and festivals of ancient nations. But I found not only that Sir William Jones discovered that the Hindoos possess a marvellously correct rule, viz., that the stars make a complete revolution in 25920 years, a degree being gained in 72 years, but also that he attributed the knowledge of this rule to the old Indian astronomers. Although I quoted Sir Wm. Jones' words in the text of p. 71, I somewhat hastily ventured to differ from him in the note appended, "It is evident that this era of 71 years was based on the erroneous assumption that a complete revolution of the fixed stars takes place in in 24000 years. It would seem that *after the invention of these myths*, the Hindoos discovered that their menwantaras were too short, as they used 72 and 432 as the basis of their astronomical calculations. 432x60 or 72x360 give 25920, which is not much in excess of the true period, 25868 years, within which a complete revolution of the fixed stars is effected."

The reason for differing from so eminent an authority, was that it seemed incredible that the Hindoo rule (72 years x360 degrees=25920 years), could have been arrived at by nations of remote antiquity, unless it was the result of divine inspiration. As regards the Pleiades at least, it was not less correct than the approximation given in standard Cambridge works, Hymer's Astronomy and Goodwin's Mathematics, which state that the fixed stars make a revolution in "about 26000 years," the former stating that one day is gained in 71½ years. But 71½x360 gives us not 26000, but 25740. Hence the error in the Hindoo rule is only 52 years; and in the two rules given us by Hymer, it is about 128, and 132, respectively. The latter of course are merely approximations, still as respects the Pleiades the Hindoo rule is the most accurate and simple which could possibly be devised. To suppose that human science in remote ages could have worked out so profound a problem is absurd. But I could not assume that it was a gift from the Deity, for if such were the case it should have had a place in the Hebrew Scriptures; not finding it there, I assumed that it must have been a comparatively recent discovery. But subsequent investigations led me to entertain some misgivings on the point. It was found that the Tau, which I had concluded was the emblem of Time (ta, a name among the Egyptians for the Divinity),* and a symbol of "the year of *Tau*" or of the Pleiades, was always placed in the hands of the gods, and was, according to Sir Gardiner Wilkinson, always regarded "as one of the greatest gifts bestowed by Deity on man;" and the remarkable and unaccountable importance attached to time by almost all ancient nations, discernible in mythology, in names of gods, localities, &c., and in their astronomical periods, evinced that there was something underlying all this, for which no solution had ever been supplied. The God Thor of the Scandinavians was identified as Time in note to p. 79, and his 540 halls (i. e. years) were supposed, if multiplied by 50, to make 26000—i. e. the same as the Cambridge approximation to the revolution of the fixed stars. Professor Everett kindly drew my attention to an error in my figures, and in multiplying 540 by 48 it produced exactly 25920.† This period Sir Wm. Jones says, was known to many ancient nations.

These investigations had reached this point when the speculations of others compelled me to apply my previous conclusions to the Mosaic chronology. Greswell's theory connecting the 72 sons of Noah with the 72 priests of the Egyptian Bull

* See note to p. 77. † See note to p. 164.

Apis, and with the 71 or 72 worshippers of Thammuz, forced me to see whether this number did not point to astronomical features in the Mosaic chronology. Sir William Jones pronounces Noah to be the same as the Hindoo Menu; but the periods of Menu were 72 or 71 years, and the Hindoo chronology from the creation to the deluge was purely astronomical, not historical, and was based on periods of Menu of 72 years each. I accordingly tried the Mosaic chronology from the creation to the deluge, and found that 1656 divided by 72 makes exactly 23 periods similar to those of the Hindoo Menu. A reference to p. 99 will show how these results were attained. These facts throwing light on the Mosaic chronology, were added as confirmations at the end of the paper, in the copies sent recently to scientific societies in Great Britain, and to a few persons likely to be interested in such matters.

After the paper in this form was sent to England, however, my attention was attracted by the number 23 of the periods between the Creation and the Deluge. The result is alluded to in the following extract from a letter to the Bishop of Nova Scotia :—

"Since I sent you my paper on the Festival of the Dead, and the preface which subsequent discoveries rendered necessary, I have been struck by the fact that the era from the creation to the deluge makes 23 periods, in which 23 days altogether are gained by the sidereal year (the year of the Tau or of the Pleiades), and I felt convinced that the number 23 pointed to some truth, all the details of which I had not fully mastered, or at least had not clearly explained.

"I give the results of an enquiry into this point, which will, I believe, settle the question, that our history of the creation and of the deluge is really a record, not only of those great events, but also of a profound astronomical truth, a heritage from primeval man.

"72 years make a period, in which the year of the Tau or of the Pleiades gains one day on the tropical or natural year. Let us therefore call each period 1 *great day*. The 1656 years from the creation to the deluge make 23 periods or 23 great days. The 7 days of creation must have been 7 periods or 7 great days, which with 23 make 30 great days or a great month (2160 of our years). 12 great months make a great year, i. e. 2160x12=25920, the exact period in which the ancients supposed the sidereal year (or the year of the Tau) to revolve around the natural year. Hence the great year consists of 360 days, each of which is gained in periods of 72 years, amounting in the whole to 25920 of our years.

"The 540 halls of the Northern Thor (Tau?) are the fourth of a great month, and may therefore be called a *great week*.

540x 4=2160 a great month.

2160x12=25920 a great year.

This, therefore, removes all question or doubt on the subject, and explains clearly the nature of that primeval calendar which was regarded as 'one of the greatest gifts bestowed by Deity on man.'"

As evidence has been adduced to prove that the year of the Pleiades of the Pacific Islanders, Mexicans, and other races was the primeval calendar; as the Pleiades and Taurus have been shown to be connected with time and the deluge not only in heathen traditions, but also in the Mosaic narrative; and as the great year is but an amplification of the primitive year of the Pleiades, and is based on a principle and on a profound truth, the knowledge of which is essential to the correct use of that calendar, it is difficult to conclude that the foregoing figures only present a curious coincidence. Figures it is said cannot lie; but even if they can, they are in this instance confirmed by a variety of indirect proofs of their correctness, which have already attracted our attention, and which are the more important as they were arrived at before their effect was made

evident. Assuming then that the Mosaic chronology points to a marvellous truth arrived at by primeval man, or received by him, as the Hindoos and Egyptians believed, as a gift from the Deity, the conclusion is most important, as throwing light on the early history of the whole human race. It is evident that the periods of the ancients pointing to 25920, had not, as has been supposed, a reference to astronomy, but to chronology based on the revolution of the fixed stars, and to a rule absolutely essential to the regulation of the primeval calendar of the Pleiades. The necessity for this rule forced itself upon my attention at a very early stage of these investigations, when I endeavoured to ascertain whether the festivals and calendars of the ancients were connected with the year of the Tau* or of the Pleiades, and whether they exhibited traces of the progression, which must have been shared in by them, if attached to a sidereal year.

At the time that the problem as to the great year indicated by the Mosaic narrative was worked out, referred to in the letter to the Bishop of Nova Scotia, Sir William Jones' works had been lent to him. They were subsequently obtained from him for the purpose of seeing whether the great month of 2160 years was not a period of the Hindoos. A period of that exact number of years was not found, but a far more conclusive corroboration was discovered, viz: a great year precisely similar in principle in every respect to that indicated by the Mosaic chronology. A calpa or period makes a day of Brahma, 30 of which make a month of Brahma, and 12 of these months make a year of Brahma, an age of Brahma consisting of 100 of his years. As the period 25920 is so well known to the Hindoos, it is not improbable that the year of Brahma, like that indicated by the Mosaic chronology, originally referred to the revolution of the fixed stars, or rather to the progression of a year regulated by the fixed stars, around the seasons of the natural year, though subsequently magnified by the extravagance of Hindoo mythologists into an enormous era.

The seven periods or great days of creation of the Mosaic narrative, appear in the mythological chronology of the Hindoos, but are connected not with the creation but with the deluge. But a difficulty will suggest itself that the days of creation could not have referred to periods, because their "evening and morning" precludes this idea. This difficulty, though apparently such a stumbling block to many writers can easily be explained. Geology presents such difficulties in the way of their being simply seven days, or one of our weeks, that Hugh Miller has endeavoured to convert them into periods.

He appears to have thought the task one of a good deal of difficulty, as he felt himself "called upon to account for but three out of the six." The writer in the Essays and Reviews on the Mosaic Cosmogony, regarding it as exhibiting mistakes, will not allow the figurative view which that eminent geologist adopted as regards three at least of the days of creation. "While on the one hand this supposition admits all desirable latitude for mistakes and misrepresentations, Hugh Miller on the other hand, endeavours to show that a substantial agreement with the truth exists, and to give a sufficient reason for the mistakes." In opposition to this view the Essayist states: "'It has been held,' says Hugh Miller, 'by accomplished philologists that the days of the Mosaic creation may be regarded, without doing violence to the Hebrew language, as successive periods of great extent.' We do not

* This will be apparent by a reference to p. 56.

believe that there is any ground for this doctrine." "Every such phrase explains itself, and not only philology but common sense disclaims the notion that where 'day' is spoken of in terms like those in the first chapters of Genesis, and described as consisting of an evening and morning, it can be understood to be a seculum." Let us see, however, whether common sense necessarily leads to such a conclusion. Should we not at least glance at the traditions of the Hindoos and other nations of antiquity, as to the creation and the deluge, in seeking to interpret the phraseology of the Mosaic narrative, to which they bear such a striking resemblance, that Sir William Jones pronounces the Hindoo and Hebrew accounts of the creation and of the deluge to be almost identical? If science proves that "the evening and the morning" of the days of creation cannot have had the usual meaning attached to those words by us, but must have been connected with periods, let us see whether common sense leaves us no alternative but to adopt a literal interpretation, which, if accepted, presents the Mosaic narrative to us as a tissue of mistakes. In interpreting any ancient literary production of remote antiquity, critics generally make use of the light which contemporary works shed upon it; and this is especially the case as respects the meaning of words. Even in Shakspeare's works there are many expressions that are now altogether obsolete, and that would be unintelligible but for the aid which contemporary literature supplies to us.

Let us turn from the Mosaic narrative to a work attributed by the Hindoos to Menu, the Noah of India, and let us see whether, in the remote eras when Moses and Menu wrote their histories of the Creation and of the Deluge, the words "the evening and the morning" might not have been applied to periods as well as to days. "The sun," we are told, "causes the division of day and night, which are of two sorts, those of men, and those of the gods; the day for the labour of all creatures in their several employments; the night for their slumber. A month is a day and night of the Patriarchs; and it is divided into two parts; the bright half is their day for laborious exertions; the dark half their night for sleep. A year is a day and night of the gods; and it is also divided into two halves; the day is when the sun moves towards the north; the night when he moves towards the south." We are next told that a thousand divine ages make a day of Brahma; his night has also the same duration."

The evidence, therefore, of a narrative similar to the Mosaic cosmogony, bears out fully the view of Hugh Miller, that "the evening and the morning" of the days of creation referred to periods.

The system adopted in ages of primitive antiquity for the regulation of time, by which there was a gradual development of the year into the great year, and of night and day into "the evening and the morning" of periods or great days, is peculiarly interesting.

As the primitive year began with the rising of the stars in Taurus in the evening on the Halloweve, or "Mother Night" of the year, each succeeding day began at sunset. The same peculiarity is evinced in the seven great days of creation, which did not consist of morning and evening—but of "the evening and the morning."

The day of the Mosaic cosmogony is of a more primitive type than that of Hindoo chronology. The former commencing with the evening, while the latter is of a more modern character, and begins with the morning. The Hindoos hold that "the Twelve Nights are an image of the year." The German peasantry, inherit-

ing the traditions common to all Indo-European nations, have preserved the same belief as the Hindoos, and suppose that "the calendar for the whole year is made in the twelve days between Christmas and Epiphany, and that as the weather is on each of those days, so will it be on the corresponding month of the ensuing year. They believe, also, that whatever any one dreams on any of the twelve nights will come to pass within the next year."*

"Twelfth *Night*," so well known to Englishmen, and to all readers of Shakespeare, points to the system now in vogue of counting the day from sunset, or from the evening—traces of which are to be seen in the Mosaic cosmogony. "The Twelve Nights" were the embryo of the year, and the year was the basis of the great year. But the primitive year was the period that elapsed from the culmination of the Pleiades at midnight to the next culmination at the same time of the night. The great year consisted of the interval between the time when the Pleiades having made a revolution around the seasons, would once more culminate at midnight at the same time as when the great year or cycle commenced. This, according to a calculation which I think may be considered as sufficiently precise, would occupy 25868 years.

The primitive year consisted, as we have seen, of 12 months of 30 days each—the five days which were intercalated not being counted as days of the year. This system, it has been shown, was known in Yucatan, in Egypt, in Persia, and in other countries. It was known to the Patriarch Job, who refers to those days which were not "joined unto the days of the year," and which "did not come into the number of the months."† The great year of primitive antiquity was but an amplification of the same system. It consisted of 360 great days, each of which consisted of 72 years, amounting in the whole to 25920 years, the ancients considering that one day was gained in every period of 72 years. The traces of the system are still visible at the present day, and show that chronology preceded and left its impress on astronomy as a science, as the 360 degrees of the ecliptic are clearly to be traced to the 360 days of the great year.

But the Hindoos changed the period of 72 years into 71, which Rodier considers a very accurate calculation,‡ and which Sir Wm. Jones regards as less correct than the primitive rule. Although I speak with no little hesitation on such a point, I would suggest whether this period does not shew that, when the Hindoos abandoned their primitive year of 360 days, and made it 365, they adapted their great year to the change, for if we multiply 71 by 365, it gives us 25915, which is within five years of the length of the primitive great year of 360 great days,* the latter having been probably a guide to the Hindoo astronomers in changing the great day from 72 to 71 years, and the great year from 360 to 365 great days, or from 25920 to 25915 of our years.

The Scandinavians and the Mexicans believed in successive destructions and renovations of the world; the Hindoo narrative says "there are alternate creations

* Kelly's "Indo-European Traditions and Folk Lore," (1863,) p. 16. This interesting work contains many facts that would have been of service in writing the paper on the "Festival of the Dead," but was only procured after the present paper was partly written. The portions as to Thor and Arthur bear upon subjects, discussed in pp. 77, 103.

† See The Festival of the Dead, p. 57. note p. 71.

‡ L'Antiquite des Races Humaines, Reconstitution de la Chronologie et de L'Histoire, (Paris 1802,) pp. 134. 138.

and destructions of worlds through innumerable manwantaras; the Being Supremely desirable performs all this again and again."*

In the traditions of the Mexicans, Hindoos, Greeks, and other races, the deluge is supposed to have occurred at the end of a great period or cycle. The Mosaic narrative places it at the end of a great month.

"Such" Sir William Jones says of the periods of the Hindoos, "is the arrangement of infinite time *which the Hindoos believe to have been revealed from heaven*—and which they understood in a literal sense."

Not suspecting apparently that their periods had reference to a sidereal year, and to its revolution around the tropical year, he says, they seem "to have intrinsic marks of being purely astronomical." It is clear, however, that though not historical, they were not purely astronomical, but were chronological eras regulated by, or based upon the movements of fixed stars. It is manifest that there must have been some practical value in the great truth so highly prized by the Hindoos, and that it had reference to the regulation of Time, and of the year, otherwise it was a wonderful but perfectly useless piece of science, that was altogether out of keeping with the comparative ignorance on such subjects that must have existed ages of remote antiquity.

The essayist says of the Mosaic cosmogony, "No one contends that it can be used as a basis of astronomical or geological teaching." "It is a human utterance which is pleased Providence to use in a special way for the education of mankind." It is, however, worthy of remark, that knowing but little of astronomy, and at a time when I was profoundly ignorant of the chronological periods of the ancients, I attempted in p. 57, to work out the problem of the progression of the New Year's festival of the year of the Pleiades by a rule supplied to me by Professor Everett, which made the revolution of the Festival of the Dead around the natural year take place in 25915 years, while the Great Year of the Mosaic cosmogony, *discovered after the paper on the Festival of the Dead was published*, consists of 25920 years, a coincidence which cannot fail to be regarded as most interesting and important.

It would be difficult to find in the whole range of sacred history a more significant evidence of truth having been revealed by divine inspiration to man, than in the knowledge, in the remote ages when the Mosaic narrative was written, of that profound truth, by which alone the design of the Creator, recorded before the creation of man is mentioned, could have been accomplished, that the lights in the firmament of the heaven should "be for signs and for seasons, and for days and years." This passage alone shows that in our account of the creation the regulation of *time* had the same prominence given it, which we have found it to occupy in the cosmogonies and mythologies of ancient nations, and will afford no slight corroboration of my view, that this rule, so venerated by primeval antiquity, had its record in the sacred history of mankind.

It is deserving of notice, that the attention of astronomers has recently been especially drawn to the Pleiades. If the theory, referred to by Captain Maury, is correct, we have not only the year and the great year of the Pleiades, but also a still grander cycle regulated by these stars, to which the great Hindoo cycle of four *Critas*, amounting to 17,280,000 years is a singular approximation.† The follow-

* Sir William Jones "On the Chronology of the Hindoos."

† There is such a peculiar minuteness in the dates of births and deaths in the Mosaic narrative, that theologians have already suspected that the Mosaic system of chronology was per-

ing passage has been met with since the foregoing was written, and will form a suitable conclusion for this paper:—

"The Almighty convincing Job of his nothingness, asks of him, 'Canst thou bind the sweet influences of Pleiades?' (Chap. xxxviii. 31.) We can well imagine, some fifty years ago, or less, some philosopher, 'well up in the science of the day,' objecting strongly to this passage, as favouring Astrology, or as teaching that the stars influenced the weather. But one of the most wonderful of modern discoveries in Astronomy brings forth its true meaning, and establishes it as a fresh evidence of inspiration. We cannot do better here than quote from the interesting and eloquent work of Capt. Maury, of the Confederate Navy, on "The Physical Geography of the Sea." He observes:—

"'The Bible frequently makes allusion to the Laws of Nature, their operation and effects. But such allusions are often....concealed, until the lights and revelations of science are thrown upon them; then they burst out and strike us with exquisite force and beauty. As our knowledge of nature and her laws has increased, so has our understanding of many passages in the Bible been improved. 'Canst thou bind the sweet influences of the Pleiades?' It has been recently all but proved, that the earth and sun, with their splendid retinue of comets, satellites, and planets, are all in motion around some point or centre of attraction inconceivably remote, and that that point is in the direction of the star Alcyone, one of the Pleiades.'

"As the influence of the sun causes the earth and the other attendant planets to revolve in their orbits, even so does 'the influence' of this great central sun, situated in the 'Pleiades,' draw the whole of our solar and astral systems, including the 'Milkyway,' in a vast stupendous sweep around it: one such revolution requiring, it is calculated, the inconceivable period of 18,200,000 years! Thus the astronomer's wonderful researches have given a clear meaning to this question put to Job, and demonstrated that He asked it unto whom are known 'all his works from the beginning of the world.' If He has never left himself 'without witness, in that he did good, and gave us rain from heaven, and fruitful seasons;' so, to meet new risen objections, he has caused to be placed in the Bible such passages as this, which man may by his discoveries (often little thinking or wishing it) make to shine out as new evidence—'another morn risen on mid-noon'—that the Author of Nature and of the Bible is ONE."*

haps artificial, and not intended for historical purposes, and that it may have been used with some other view, by the inspired writer. It is probable that, if the ages of the patriarchs are examined carefully, they will be found to embody not chronological dates, but *a rule for chronology*, and to refer to even a greater cycle than the great year.

* The above extract from an English author, whose name is not given, is quoted in a number of the Church Witness of St. John, New Brunswick.

The theory alluded to by Captain Maury, it should be remembered is still a *vexata questio* among astronomers. The quotation from Job suggests the fact, that from my having trusted to my memory in referring, in the paper on the Festival of the Dead, to the same passage, the word "pleasant" was inadvertently substituted for "sweet"—an error which will be explained and excused by the large mass of authorities which it was necessary to examine and compare. The correctness even of the authorized version is a subject of discussion. See Barnes' notes on Job, ch. ix. 9.